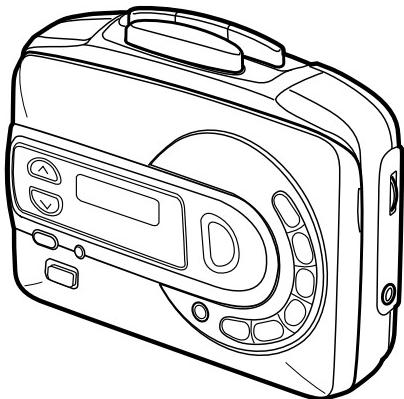




**HS-TX394** YU,YL,YZ  
**HS-TX396** YH,YL,YZ,YJ  
**HS-TX399** YL



# SERVICE MANUAL

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STEREO RADIO  
CASSETTE PLAYER

---

BASIC TAPE MECHANISM : 4ZM-2  
(P5NC,P5NF)

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**aiwa**  
S/M Code No. 09-991-404-8R1

REVISION

## SPECIFICATIONS

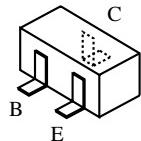
<b>Frequency range:</b>	For using in North and South America <b>AM:</b> 530 – 1,710 kHz (10 kHz step) <b>FM1,FM2:</b> 87.5 – 108.1 MHz (200 kHz step)
	For using in Europe and other countries <b>AM:</b> 531 – 1,602 kHz (9 kHz step) <b>FM1,FM2:</b> 87.5 – 108 MHz (50 kHz step)
	For using in Japan <YU,YL> <b>AM:</b> 531 – 1,629 kHz (9 kHz step) <b>FM1,FM2:</b> 76 – 108 MHz (100 kHz step in 76 – 90 MHz, 50 kHz step in 90 – 108 MHz)
<b>Maximum output:</b>	4 mW + 4 mW (EIAJ/32Ω) <YZ> 15 mW + 15 mW (EIAJ/32Ω) <YU,YL,YH>
<b>Power source:</b>	DC 3V using two R6 (size AA) dry cell batteries AC house current using an optional AC adaptor AIWA AC – D302 <YH>
<b>Battery life (EIAJ 1 mW output):</b>	Approx. 7 hours using R6P (size AA) manganese batteries Approx. 22 hours using LR6 (size AA) alkaline batteries
<b>Maximum dimensions:</b>	116.7 (W) x 91.5 (H) x 35 (D) mm (4 <sup>5</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub> x 1 <sup>5</sup> / <sub>8</sub> in.)
<b>Weight</b>	Approx.140g (4.9 oz) (excluding batteries)

- Design and specifications are subject to change without notice.

## ACCESSORIES / PACKAGE LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8Z-HRC-904-010	IB,Y(DGI)-INTX396<396YZ>	
1	8Z-HRC-911-010	IB,Y(DGI)-INTX394<394YZ>	
1	8Z-HRC-903-010	IB,Y(ESF)-TX396 IN<396YZ>	
1	8Z-HRC-910-010	IB,Y(ESF)-INTX394<394YZ>	
1	8Z-HRC-907-010	IB,Y(POHCZ)-INTX396<396YZ>	
1	8Z-HRC-912-010	IB,Y(POHCZ)-INTX394<394YZ>	
1	8Z-HRC-918-010	IB,YJ(ECC)-TX396 IN<YJ>	
1	8Z-HRC-919-010	IB,YH(ECC)-TX396C<YH>	
1	8Z-HRC-921-010	IB,YL-TX399-CCE<399YL>	
1	8Z-HRC-920-010	IB,YL(ESP)-TX394 IN<394YL>	
1	8Z-HRC-906-010	IB,YL(ESP)-TX396C<[S]396YL>	
1	8Z-HRC-909-010	IB,YL(ESP)-IN<[S]396YL1,[S]396YLB>	
1	8Z-HRC-908-010	IB,YU(ESF)-IN<YU>	
2	84-447-019-310	CLIP,BELT	
3	87-B30-150-110	HEADPHONE,HP-M006A(F)<YH,YZ>	
3	87-B30-124-110	HEADPHONE,HP-M028<YU,[S]396YLB,[S]396YL>	
3	87-B30-145-110	HEADPHONE,HP-M029(T)<394YL,[S]396YL1,399YL>	

## TRANSISTOR ILLUSTRATION



RN2411	2SA1362
RN2407	2SC2714
RN1411	2SC2712
RN1407	KTA1298Y
DTC144EK	

# ELECTRICAL MAIN PARTS LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION	REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
IC				C118	87-010-805-080	CAP, S 1-16	
	87-A21-235-080	C-IC,LAG668FTF		C119	87-010-197-080	CAP, CHIP 0.01 DM	
	87-A20-851-040	C-IC,TA2111F		C120	87-010-194-080	C-CAP,S 0.047-25 ZF<YU,YL>	
	87-A21-049-010	C-IC,LC72343G-9482<YH,YJ,YZ>		C120	87-010-197-080	CAP, CHIP 0.01 DM<YZ>	
	87-A21-149-010	C-IC,TC9322FB-501<YU,YL>		C121	87-012-157-080	C-CAP,S 330P-50 CH	
	87-001-145-080	IC,TA8126F		C122	87-012-141-080	CHIP-CAPACITOR,0.22-16F	
TRANSISTOR				C123	87-012-141-080	CHIP-CAPACITOR,0.22-16F	
	89-113-625-080	TR,2SA1362GR(120MHZ,0.		C124	87-010-805-080	CAP, S 1-16	
	87-026-210-080	CHIP-TR,DTC144EK		C125	87-010-196-080	CHIP CAPACITOR,0.1-25	
	87-026-264-080	C-TR,RN1411		C126	87-010-196-080	CHIP CAPACITOR,0.1-25	
	87-026-262-080	C-TR,RN1407		C127	87-010-419-040	CAP,E 4.7-16 5L	
	89-327-143-080	TR,2SC2714 (0.1W)		C128	87-010-452-080	CAPACITOR,1-16	
	87-026-268-080	C-TR,RN2411		C129	87-010-426-080	C-CAP,S 0.012-25 B	
	87-A30-159-080	C-TR,KTA1298Y		C130	87-010-426-080	C-CAP,S 0.012-25 B	
	89-327-125-080	CHIP TR,2SC2712GR		C131	87-010-426-080	C-CAP,S 0.012-25 KB	
DIODE				C132	87-010-426-080	C-CAP,S 0.012-25 KB	
	87-001-142-080	DIODE,ISS294 (100MA)		C133	87-010-822-040	CAP,E 220-4 (MJ)	
	87-020-027-080	CHIP-DIODE ISS184		C134	87-010-822-040	CAP,E 220-4 (MJ)	
	87-A40-260-080	C-ZENER,UDZ2.0B<YH,YJ,YZ>		C136	87-010-178-080	CHIP CAP 1000P	
	87-026-267-080	LIGHT EMITTING DIODE,RN2407		C138	87-016-461-080	C-CAP,S 0.47-16F	
MAIN C.B				C140	87-010-178-080	C-CAP,S 1000P-50 KB<YH,YJ,YZ>	
	BPF101	87-A90-601-010	FLTR,BPF GFWB7	C140	87-012-154-080	C-CAP,S 150P-50 J CH<YU,YL>	
C1	87-010-179-080	CAP,CHIP S B1200P		C141	87-010-178-080	C-CAP,S 1000P-50 KB<YH,YJ,YZ>	
C2	87-010-179-080	CAP,CHIP S B1200P		C142	87-010-178-080	C-CAP,S 1000P-50 KB	
C3	87-010-501-040	E/CAP GAS 47-4		C143	87-010-178-080	C-CAP,S 1000P-50 KB<YH,YJ,YZ>	
C4	87-010-820-040	CAP,E 47-4 (MJ)		C145	87-010-178-080	C-CAP,S 1000P-50 KB<YU,YL>	
C5	87-016-369-080	C-CAP,S 0.033-25 KB GRM		C146	87-010-197-080	C-CAP,S 0.01-25 KB<YU,YL>	
C6	87-016-369-080	C-CAP,S 0.033-25 KB GRM		C150	87-010-178-080	C-CAP,S 1000P-50 KB<YU,YL>	
C7	87-012-141-080	CHIP-CAPACITOR,0.22-16F		C150	87-010-321-080	C-CAP,S 82P-50 J CH<YU,YL>	
C8	87-012-141-080	CHIP-CAPACITOR,0.22-16F		C401	87-010-196-080	CHIP CAPACITOR,0.1-25	
C9	87-010-196-080	CHIP CAPACITOR,0.1-25		C402	87-010-196-080	CHIP CAPACITOR,0.1-25	
C10	87-010-822-040	CAP,E 220-4 (MJ)		C403	87-010-805-080	CAP, S 1-16	
C11	87-010-822-040	CAP,E 220-4 (MJ)		C404	87-010-805-080	CAP, S 1-16	
C12	87-010-178-080	CHIP CAP 1000P		C405	87-010-499-040	CAP,E 22-6.3 GAS	
C13	87-A11-235-080	C-CAP,TN 3.3-4 M AM004R		CF101	87-A91-162-010	FLTR,PFS450A7	
C14	87-010-503-040	CAP,E 220-4 GAS		CF104	87-A91-093-010	FLTR,KIT KSKM2CD-AO-003	
C15	87-A11-187-080	C-CAP,TN 10-4 M AM004R		D101	87-A40-462-040	C-VARI-CAP,SVC347(S)	
C16	87-010-196-080	CHIP CAPACITOR,0.1-25		D102	87-A40-484-070	C-VARI-CAP,SVC203CP	
C17	82-HJ5-612-010	CAP,E 470-4		D103	87-A40-484-070	C-VARI-CAI,SVC203CP	
C18	87-010-177-080	C-CAP,S 820P-50 SL		J1	85-HRL-623-010	JACK,3.5 ST BLK	
C19	87-010-177-080	C-CAP,S 820P-50 SL		J2	87-A60-849-010	JACK,DC DIA 2.75 BLK<YH>	
C20	87-010-178-080	CHIP CAP 1000P		L1	87-A50-038-010	COIL,RF CHOKE	
C21	87-010-178-080	CHIP CAP 1000P		L101	8Z-HRC-605-010	BAR-ANT,MW	
C22	87-A11-187-080	C-CAP,TN 10-4 M AM004R		L102	8Z-HRC-607-010	COIL,FM RF	
C23	87-010-805-080	CAP, S 1-16		L103	8Z-HRC-606-010	COIL,OSC FM	
C24	87-A11-187-080	C-CAP,TN 10-4 M AM004R		L104	87-003-226-080	MICRO INDUCTOR 100UJ	
C25	87-010-805-080	CAP, S 1-16		L105	87-A91-063-010	IFT,AM 450KHZ	
C101	87-010-194-080	CAP, CHIP 0.047		R9	87-A00-330-080	RES,M/F 220-1/8W 3900PPM	
C102	87-010-197-080	CAP, CHIP 0.01 DM		SFR1	87-A91-057-040	C-SFR,3.3K B RHO3AXAN4X	
C103	87-010-196-080	CHIP CAPACITOR,0.1-25		SW1	87-A90-133-010	SW LEAF LSA1120JAU	
C104	87-010-320-080	C-CAP,S 68P-50 CH		TH1	87-026-256-090	THERMISTOR, HT-100	
C105	87-012-140-080	CAP 470P		VC101	87-011-217-010	TRIMER,10P VCT35	
C106	87-012-153-080	C-CAP,S 120P-50 CH		VR1	87-A90-981-010	VR,RTRY 20KBX1	
C107	87-010-145-080	C-CAP,S 1P-50 CH		FRONT C.B			
C108	87-012-155-080	C-CAP 180P-50CH		C205	87-010-152-080	C-CAP,S 8P-50 CH<YH,YJ,YZ>	
C110	87-010-154-080	CAP CHIP 10P		C206	87-010-152-080	C-CAP,S 8P-50 CH<YH,YJ,YZ>	
C111	87-010-197-080	CAP, CHIP 0.01 DM<YZ>		C207	87-010-805-080	CAP, S 1-16<YH,YJ,YZ>	
C111	87-010-805-080	CAP,S 1-16<YU,YL,YH,YJ>		C209	87-010-197-080	CAP, CHIP 0.01 DM<YH,YJ,YZ>	
C112	87-010-312-080	C-CAP,S 15P-50 CH		C210	87-010-196-080	C-CAP,0.1-25<YH,YJ,YZ>	
C113	87-010-154-080	CAP CHIP 10P		C211	87-012-141-080	C-CAP,0.22-16F<YH,YJ,YZ>	
C114	87-010-197-080	CAP, CHIP 0.01 DM		C212	87-010-196-080	C-CAP,0.1-25<YH,YJ,YZ>	
C115	87-010-146-080	C-CAP,S 2P-50 C CH<YU,YL>		C213	87-010-805-080	CAP, S 1-16<YH,YJ,YZ>	
C115	87-010-145-080	C-CAP,S 1P-50 CH<YL,YH,YJ,YZ>		C214	87-010-178-080	CHIP CAP 1000P<YH,YJ,YZ>	
C117	87-010-196-080	CHIP CAPACITOR,0.1-25		C215	87-010-182-080	C-CAP,S 2200P-50 B<YH,YJ,YZ>	
				C216	87-010-805-080	CAP, S 1-16<YH,YJ,YZ>	
				C218	87-010-805-080	CAP, S 1-16<YH,YJ,YZ>	
				C251	87-010-180-080	C-CER 1500P	
				C252	87-010-805-080	CAP, S 1-16	

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
C253	87-010-197-080		CAP, CHIP 0.01 DM
C254	87-010-452-080		CAPACITOR, 1-16
C255	87-010-197-080		CAP, CHIP 0.01 DM
C256	87-010-150-080		C-CAP,S 6P-50 CH
C257	87-012-156-080		C-CAP,S 220P-50 CH
C258	87-010-805-080		CAP, S 1-16
C271	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C272	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C273	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C274	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C275	87-010-805-080		CAP, S 1-16<YU,YL>
C277	87-010-805-080		CAP, S 1-16<YU,YL>
C278	87-010-805-080		CAP, S 1-16<YU,YL>
C279	87-010-805-080		CAP, S 1-16<YU,YL>
C280	87-010-312-080		C-CAP,S 15P-50 CH<YU,YL>
C281	87-010-312-080		C-CAP,S 15P-50 CH<YU,YL>
C282	87-012-142-080		CAP, S 0.33-16<YU,YL>
C284	87-010-196-080		CHIP CAPACITOR, 0.1-25<YU,YL>
C285	87-010-196-080		CHIP CAPACITOR, 0.1-25<YU,YL>
C287	87-010-196-080		CHIP CAPACITOR, 0.1-25<YU,YL>
C288	87-010-427-080		C-CAP,S 0.039-25 B<YU,YL>
L251	87-A50-396-040		C-COIL,D-D CONV CP-4LBM
LCD201	8Z-HRC-603-010		LCD,ASSY(BAND/TU) 19P<YH,YJ,YZ>
LCD201	88-HRC-610-010		LCD,HS ASSY(BAND/TU)<YU,YL>
R216	87-022-375-080		C-RES,S 680K-1/10W F<YH,YJ,YZ>
R217	87-022-374-080		C-RES,S 560K-1/10WF<YH,YJ,YZ>
R275	87-022-359-080		C-RES,S22K-1/10WF<YU,YL>
R276	87-022-359-080		C-RES,S22K-1/10WF<YU,YL>
R277	87-022-361-080		C-RES,S 47K-1/10W F<YU,YL>
SW213	87-036-304-080		C-SW,SL 1-1-2
TH201	87-A90-547-080		C-THMS,47K (5%)NTH 5G<YU,YL>
X201	87-A70-082-010		VIB,XTAL 75KHZ<YH>
X201	87-A70-173-010		VIB,XTAL 75KHZ DT-261<EXCEPT YH>

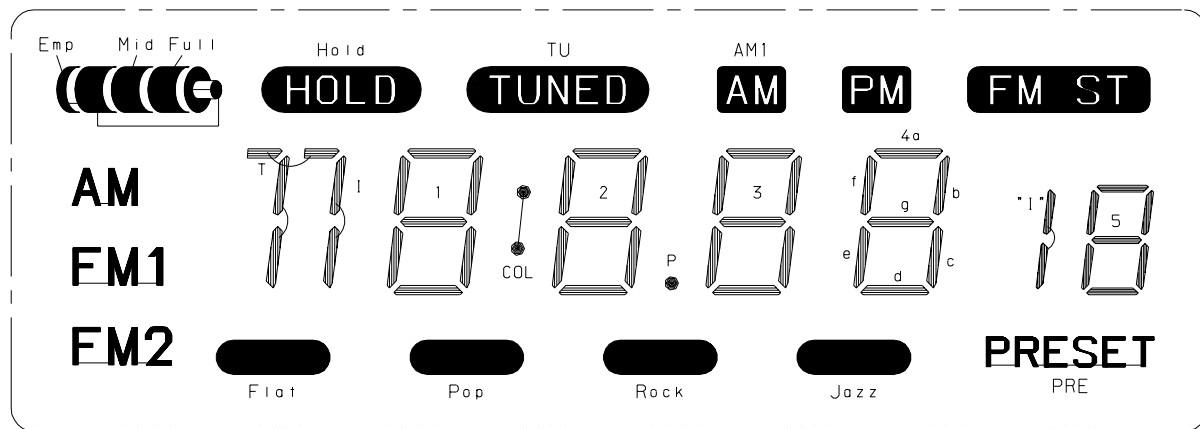
FLEX C.B

8Z-HRC-604-010 FF-CABLE, 17P

## LCD DIAGRAM

LCD, HS ASSY (BAND/TU) <YU, YL>

### GRID ASSIGNMENT

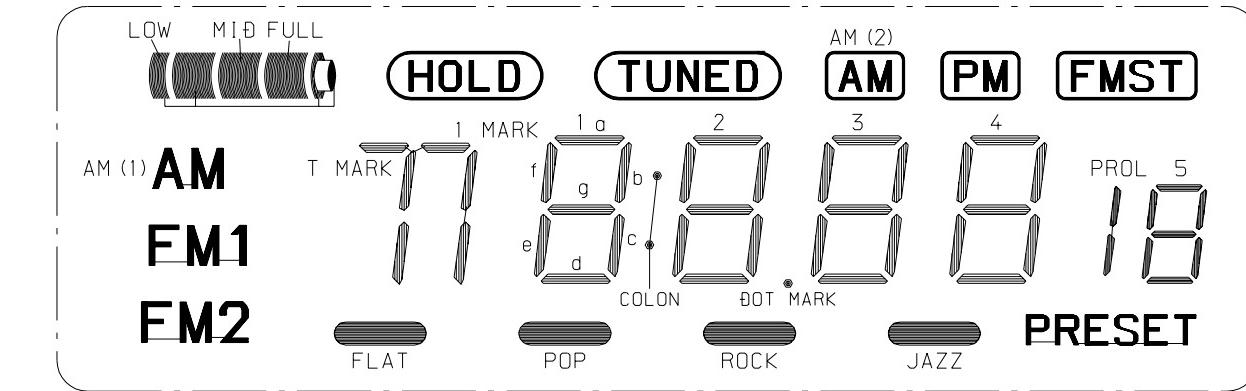


#### ANODE CONNECTION

No.	COM1	COM2	COM3
1	-	-	COM3
2	-	COM2	-
3	COM1	-	-
4	FM2	FM1	AM
5	Flat	Mid	Emp
6	I	T	FULL
7	1e	1f	Hold
8	1d	1g	1o
9	Pop	1c	1b
10	COL	TU	AM1
11	2e	2f	2o
12	2d	2g	2b
13	Rock	2c	3f
14	P	3e	3g
15	3d	3c	3b
16	Jazz	4f	3o
17	4e	4g	4o
18	4d	4c	4b
19	PRE	5e	*1*
20	5d	5g	5f
21	5c	5b	5o
22	-	FM ST	PM

LCD, HS ASSY (BAND/TU) <YH, YJ, YZ>

### GRID ASSIGNMENT



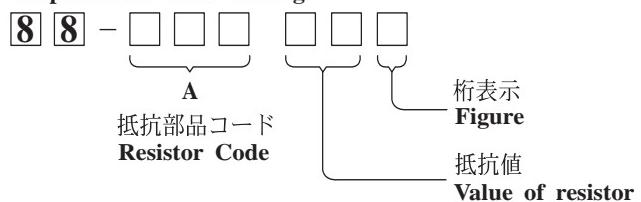
#### ANODE CONNECTION

NO.	COM1	COM2	COM3	COM4
1	COM1	-	-	-
2	-	COM2	-	-
3	-	-	COM3	-
4	-	-	-	COM4
5	LOW	AM (1)	FM1	FM2
6	MID	T MARK	1 MARK	FLAT
7	1o	1f	1g	1e
8	COLON	1b	1c	1d
9	FULL	2f	2e	POP
10	2o	2g	2d	-
11	HOLD	2b	2c	-
12	TUNE	3f	3e	DOT MARK
13	3o	3g	3d	ROCK
14	AM (2)	3b	3c	JAZZ
15	PM	4f	4e	-
16	4o	4g	4d	-
17	PROL	4b	4c	PRESET
18	5o	5f	5g	5e
19	FMST	5b	5c	5d

## Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

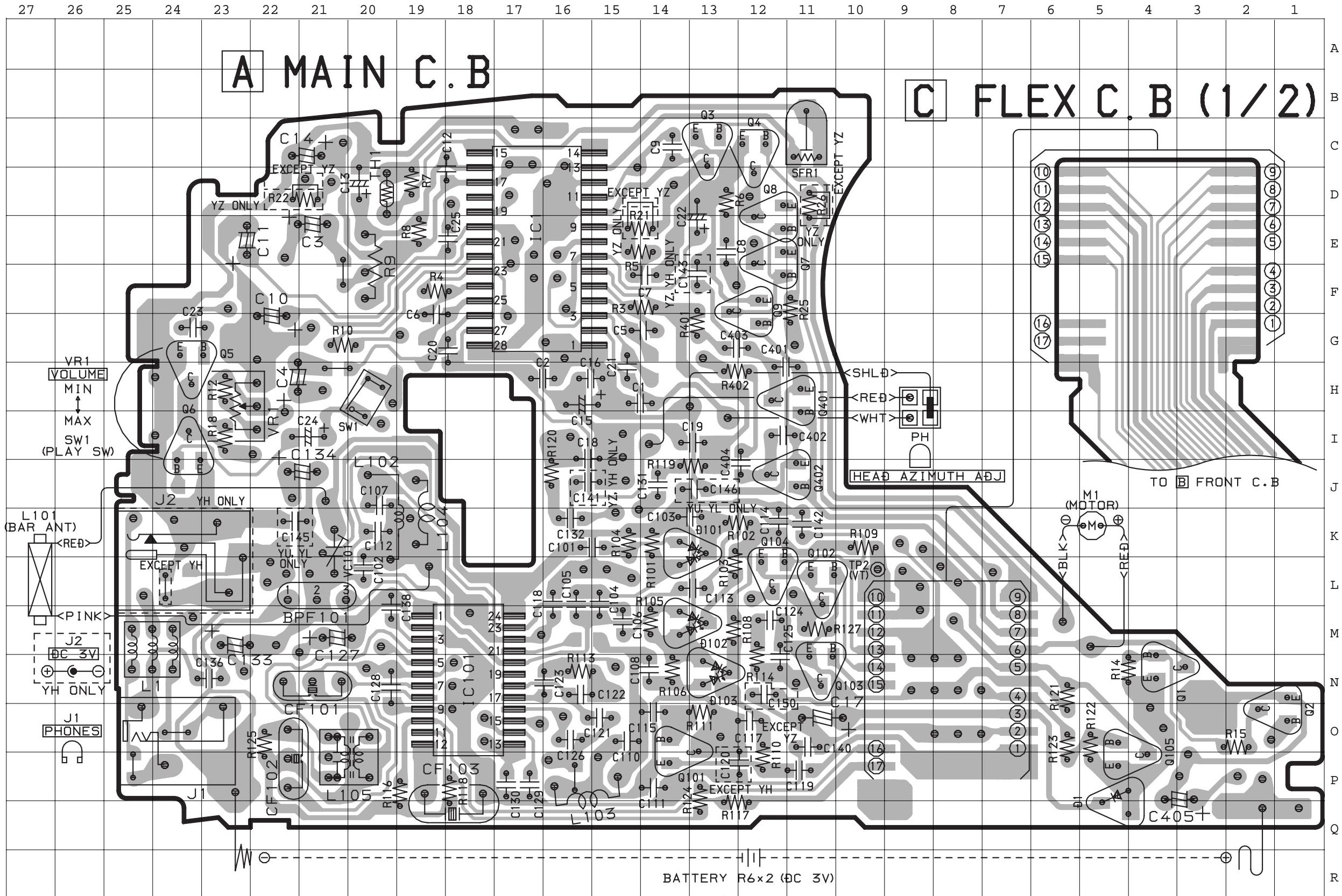
### Chip Resistor Part Coding



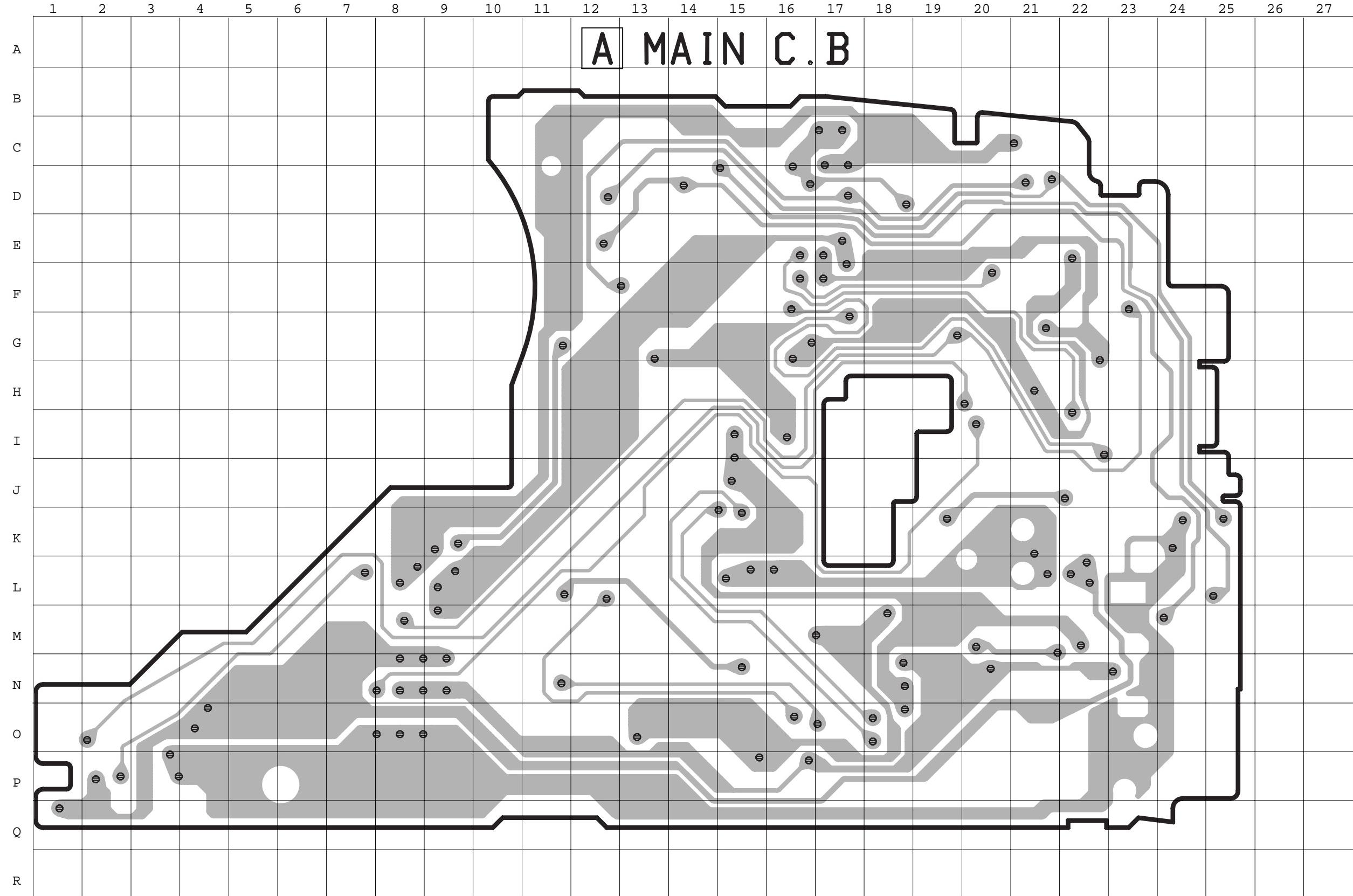
チップ抵抗  
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions			抵抗コード Resistor :A	
				外形/Form	L	W		
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

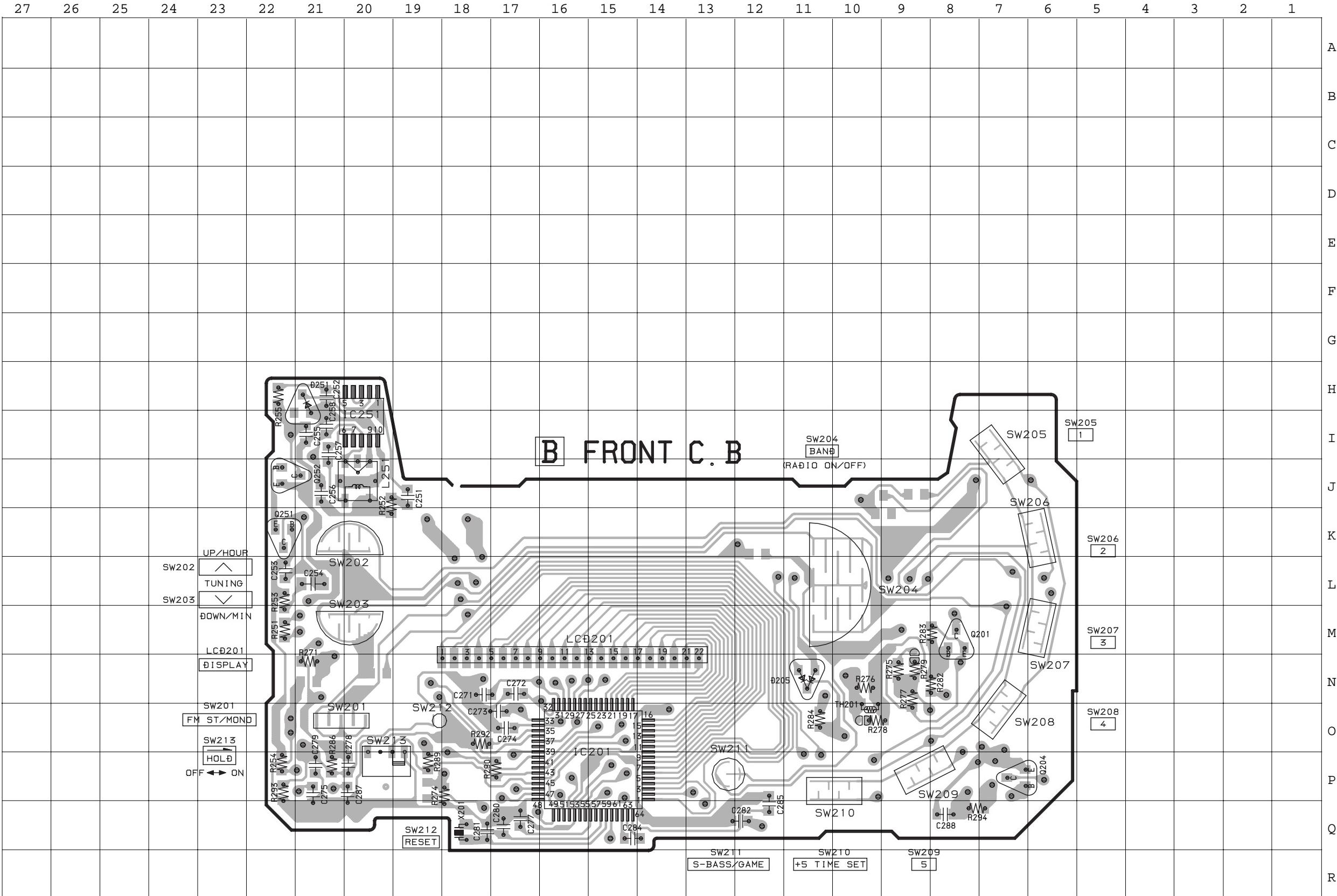
WIRING - 1 (MAIN)



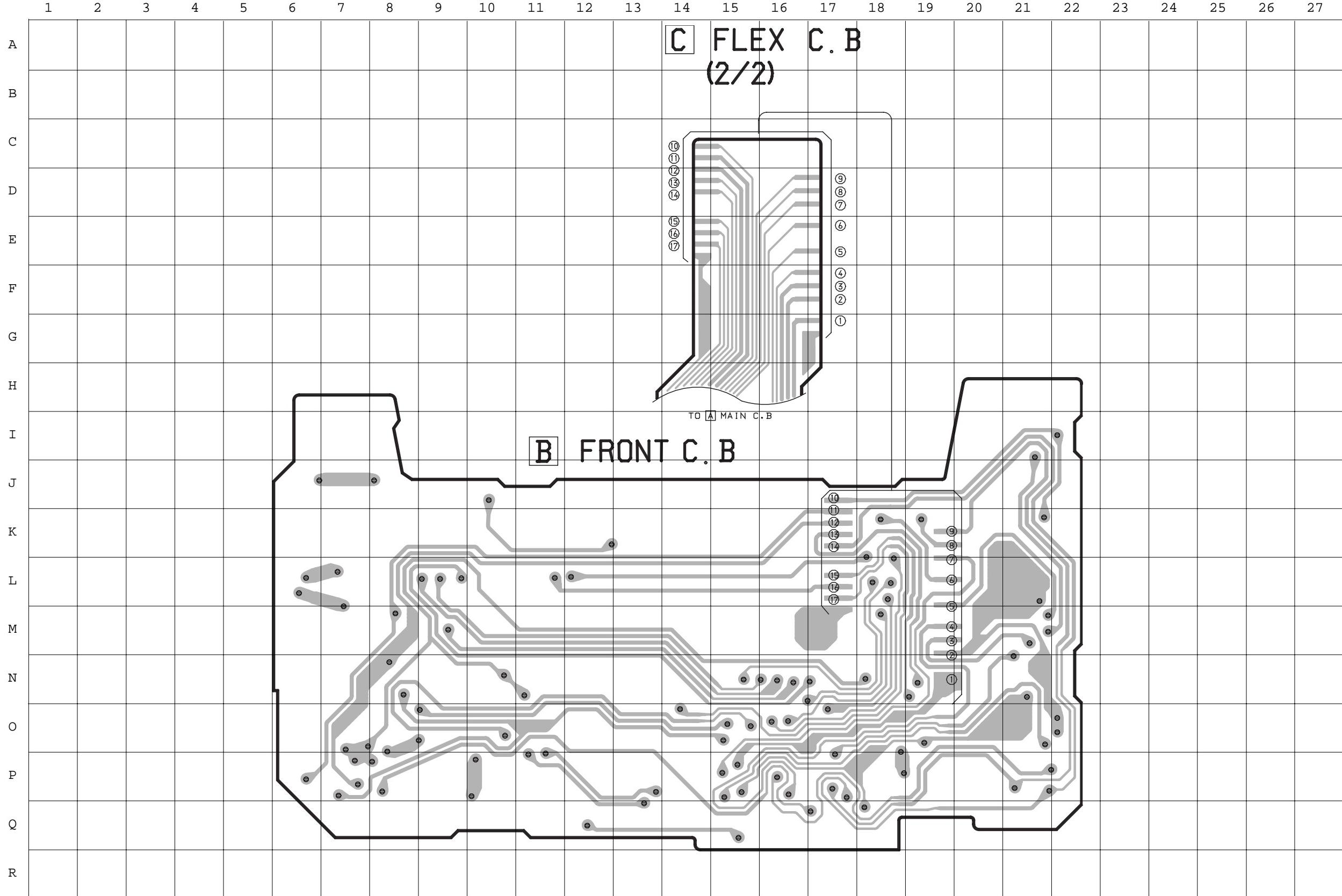
WIRING - 1 (MAIN)



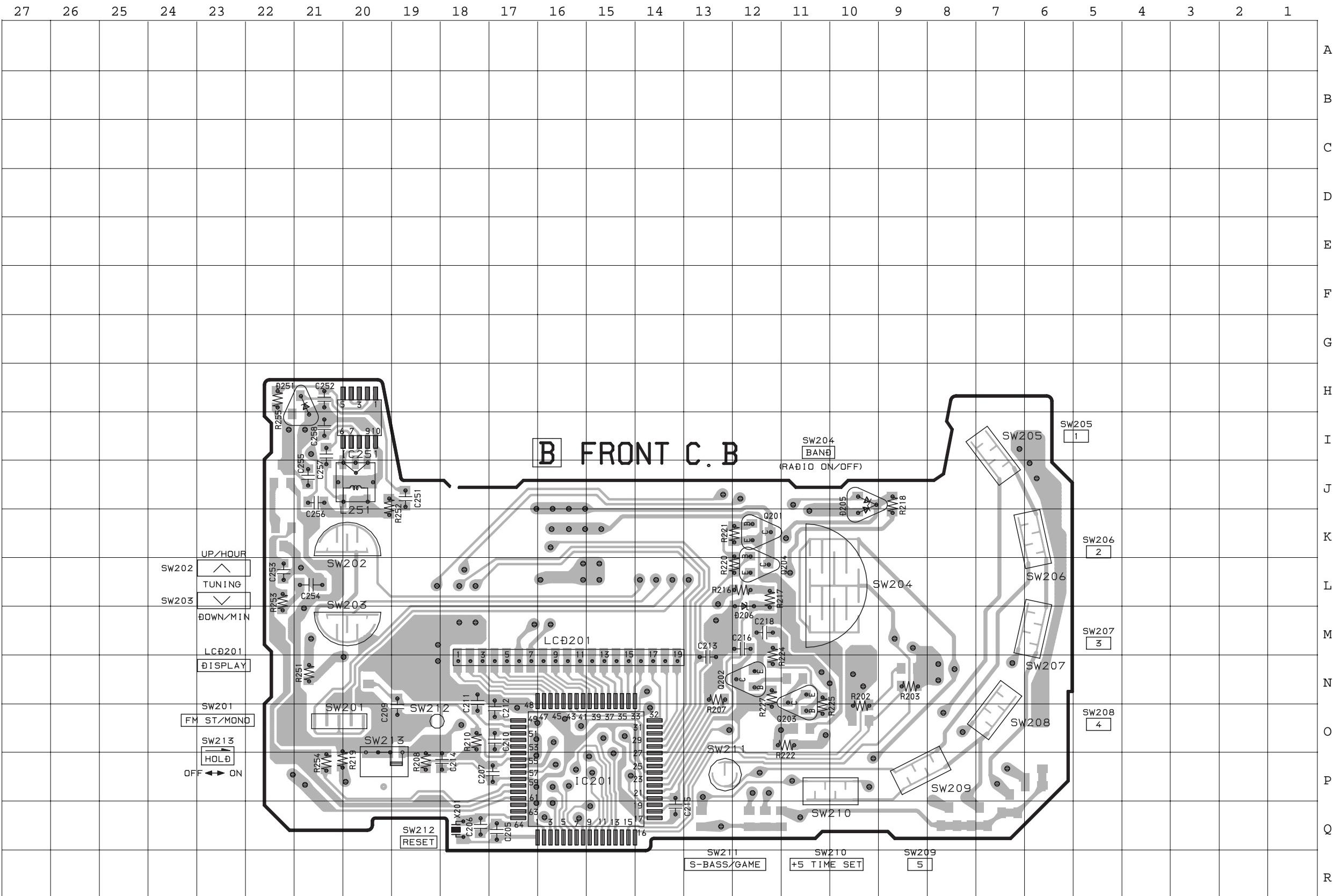
WIRING - 2 (FRONT: 1/2) <YU,YL>



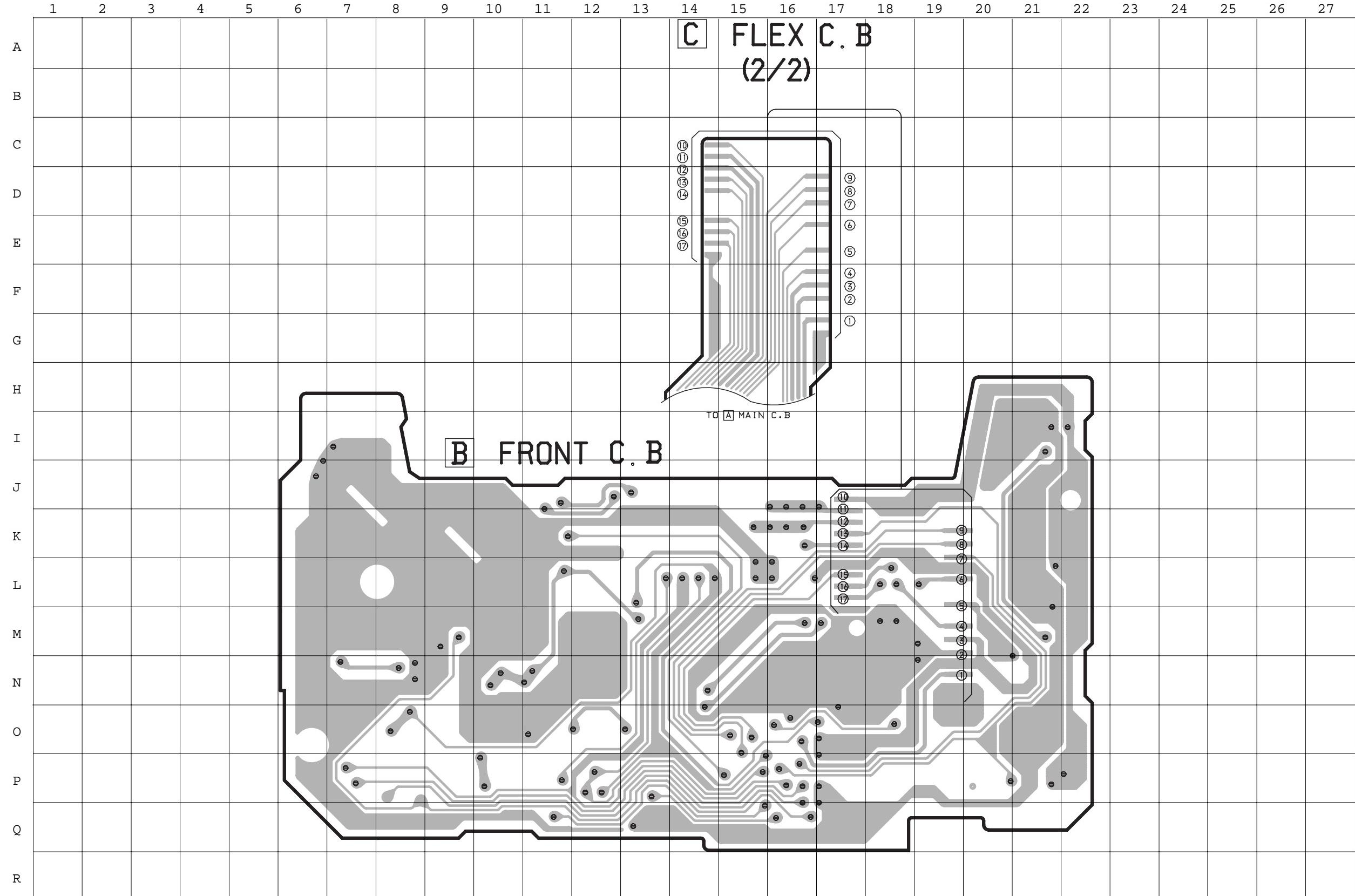
WIRING - 2 (FRONT: 1/2) <YU,YL>



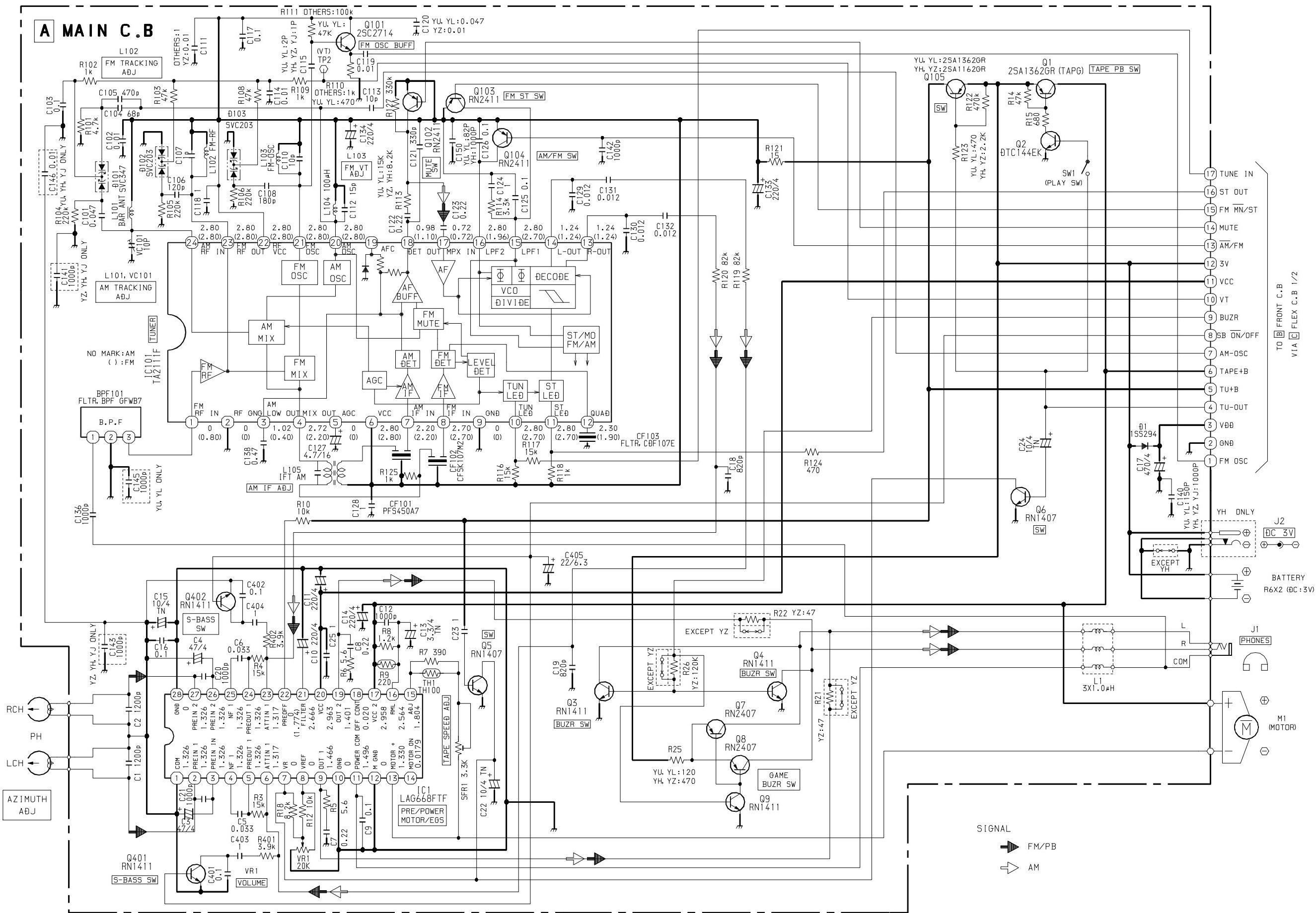
## WIRING - 3 (FRONT: 2/2) <YH,YZ,YJ>

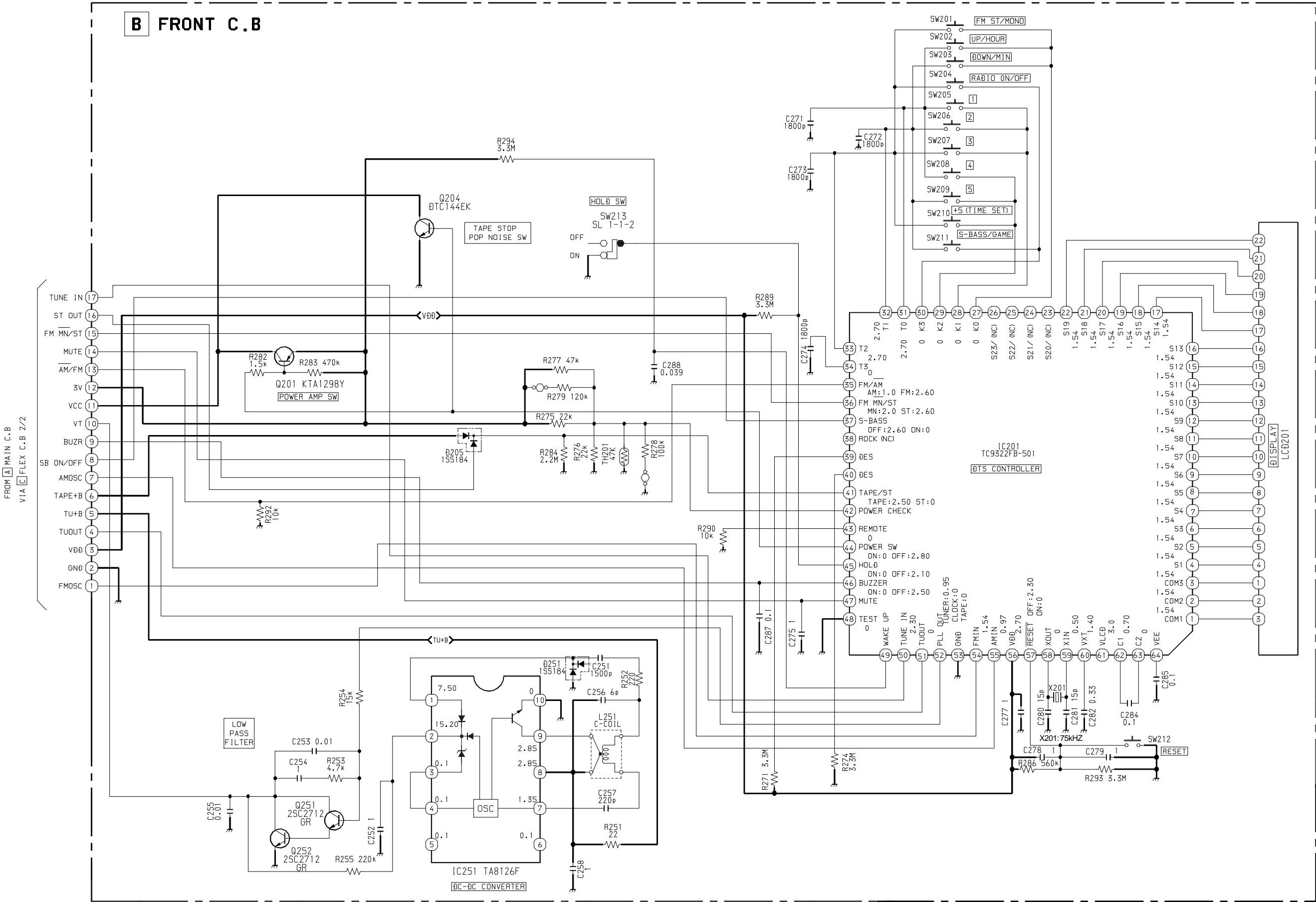


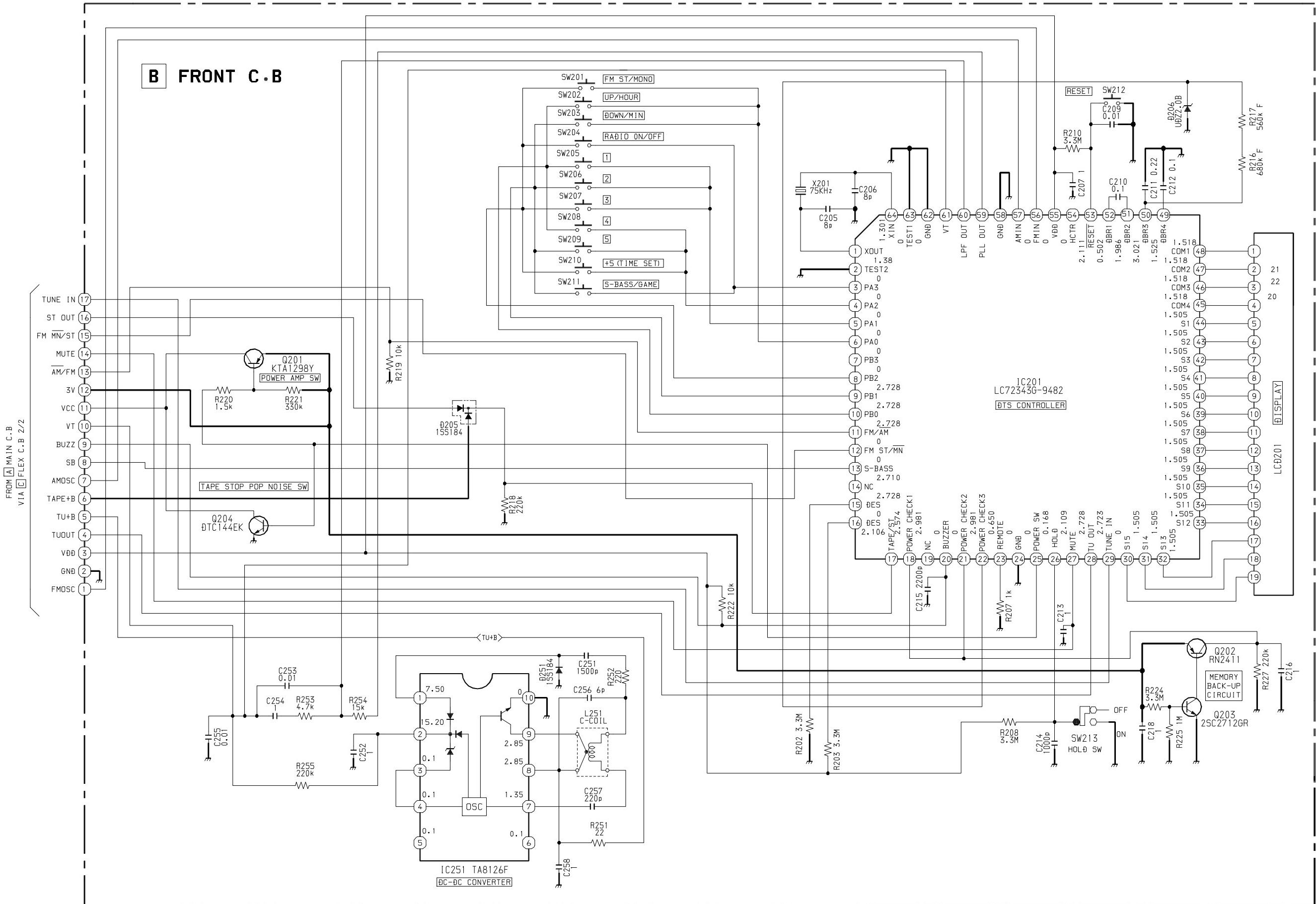
WIRING - 3 (FRONT: 2/2) <YH,YZ,YJ>



## SCHEMATIC DIAGRAM - 1 (MAIN)

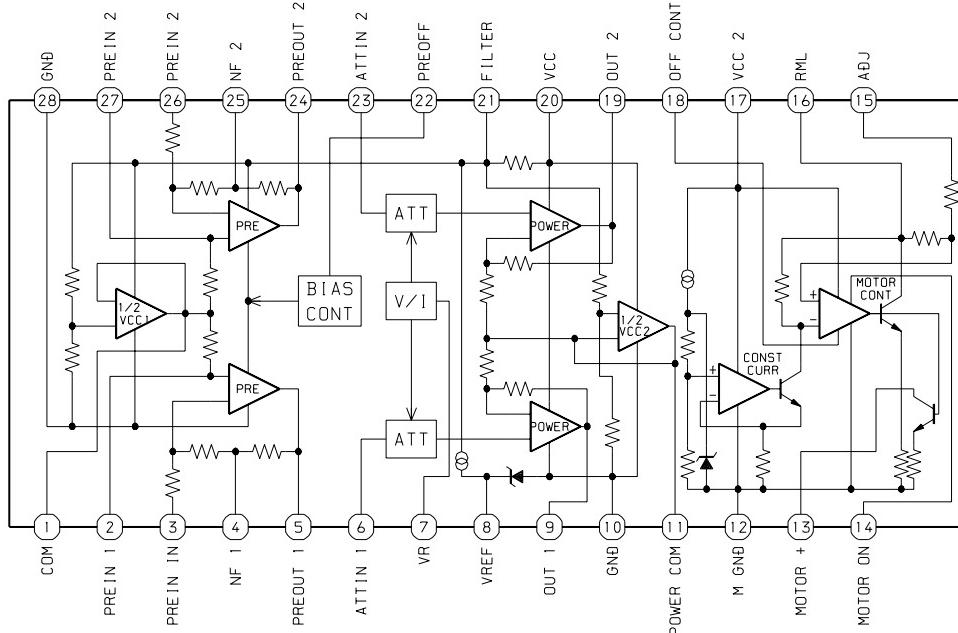






## IC BLOCK DIAGRAM

IC, LAG668FTF



## IC DESCRIPTION

IC, TC9322FB-501

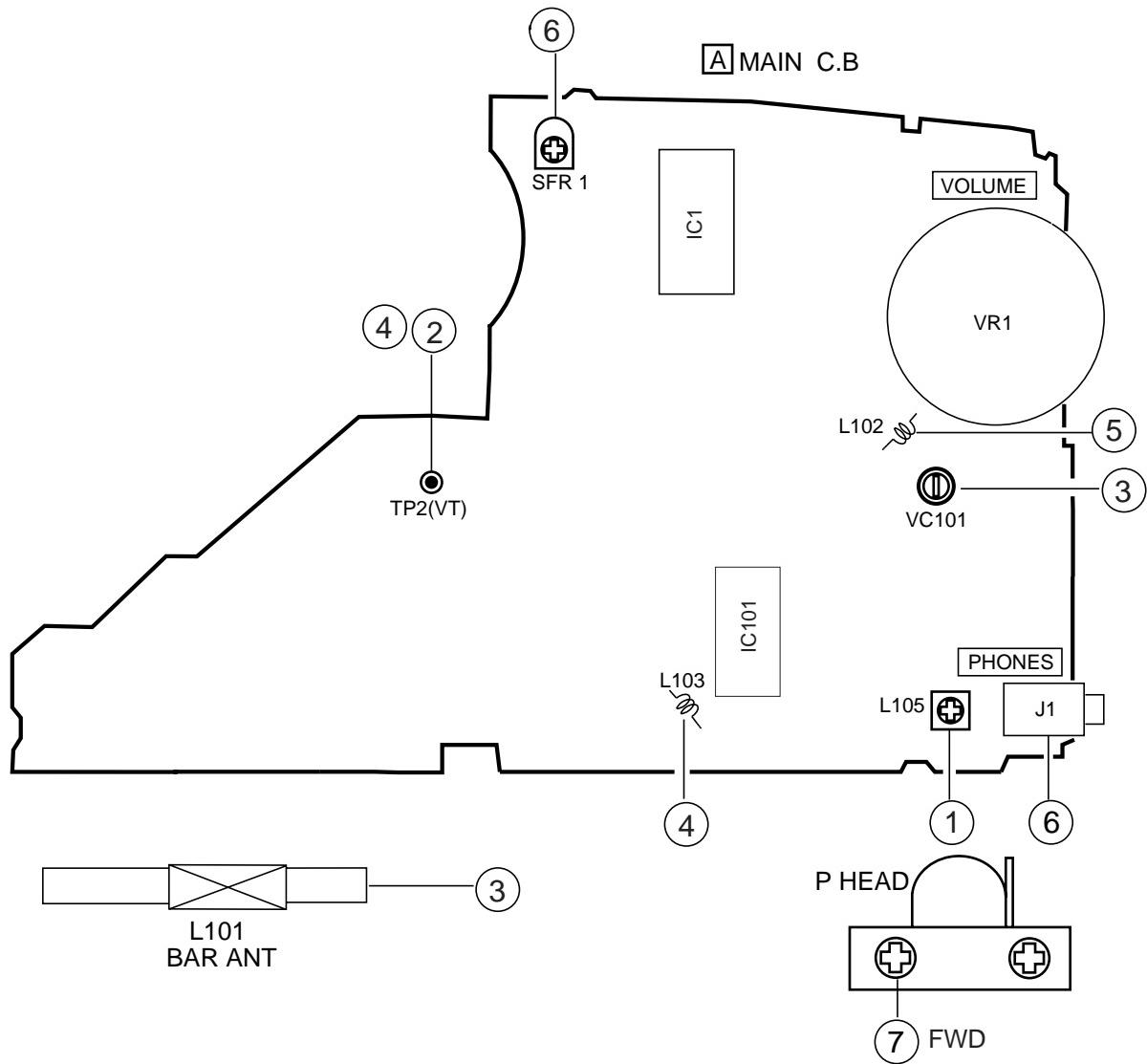
Pin No.	Pin Name	I/O	Description
1	COM 1	O	LCD commn output 1.
2	COM 2	O	LCD commn output 2.
3	COM 3	O	LCD commn output 3.
4	S1	O	LCD segment output.
5	S2	O	LCD segment output.
6	S3	O	LCD segment output.
7	S4	O	LCD segment output.
8	S5	O	LCD segment output.
9	S6	O	LCD segment output.
10	S7	O	LCD segment output.
11	S8	O	LCD segment output.
12	S9	O	LCD segment output.
13	S10	O	LCD segment output.
14	S11	O	LCD segment output.
15	S12	O	LCD segment output.
16	S13	O	LCD segment output.
17	S14	O	LCD segment output.
18	S15	O	LCD segment output.
19	S16	O	LCD segment output.
20	S17	O	LCD segment output.
21	S18	O	LCD segment output.
22	S19	O	LCD segment output.
23	S20 (NC)	O	LCD segment output. (Not connected)
24	S21 (NC)	O	LCD segment output. (Not connected)

Pin No.	Pin Name	I/O	Description
25	S22 (NC)	O	LCD segment output. (Not connected)
26	S23 (NC)	O	LCD segment output. (Not connected)
27	K0	I	Key matrix input.
28	K1	I	Key matrix input.
29	K2	I	Key matrix input.
30	K3	I	Key matrix input.
31	T0	O	Key return timing output.
32	T1	O	Key return timing output.
33	T2	O	Key return timing output.
34	T3	O	Key return timing output.
35	FM / AM	O	'H' : FM out, 'L' : AM out.
36	FM MN / ST	O	'H' : FM Stereo out, 'L' : FM Mono out.
37	S-BASS	O	S-BASS switching output. 'H': OFF, 'L' :ON.
38	ROCK	-	Not connected.
39	DES	I	These two input ports determine the destination.
40	DES	I	
41	TAPE / ST	I	In Clock mode: 'H' = LCD display TAPE. 'L' : = LCD display TIME. In FM Stereo mode : 'H' = FM ST indicator will Flash. 'L' = FM ST indicator no Flash.
42	POWER CHECK	I	A / D in for power supply voltage level.
43	REMOTE	I	A / D in for remote controller.
44	POWER SW	O	'H' : Power Off, 'L' : Power On.
45	HOLD	I	'H' : Hold Off, 'L' :Hold On.
46	BUZZER	O	Buzzer output.
47	MUTE	O	Mute output..
48	TEST	-	Connected to ground.
49	WAKE UP	I	Wake up the system from Memory back-up mode.
50	TUNE IN	I	'L' : LCD display 'TUNED'.
51	TU OUT	O	When tuner on, 'L' level is output.
52	PLL OUT	O	Phase comparison output.
53	GND	-	Ground terminal.
54	FMIN	I	FM oscillator signal input.
55	AMIN	I	AM oscillator signal input.
56	VDD	-	Supply voltage terminal.
57	RESET	I	System reset input.
58	XOUT	-	Crystal oscillator pin.
59	XIN	-	Crystal oscillator pin.
60	VXT	-	Power supply for crystal oscillator.
61	VLCD	-	Reference voltage for LCD driver.
62	C1	-	Voltage doubler boosting.
63	C2	-	
64	VEE	-	Connected to ground.

Pin No.	Pin Name	I/O	Description
1	XOUT	-	Crystal oscillator pin.
2	TEST2	-	Connected to ground.
3	PA3	I	Key matrix input.
4	PA2	I	Key matrix input.
5	PA1	I	Key matrix input.
6	PA0	I	Key matrix input.
7	PB3	O	Key return timing output.
8	PB2	O	Key return timing output.
9	PB1	O	Key return timing output.
10	PB0	O	Key return timing output.
11	FM / <u>AM</u>	O	'H' : FM out, 'L' : AM out.
12	FM ST / <u>MN</u>	O	'H' : FM Stereo out, 'L' : FM Mono out.
13	S-BASS	O	S-BASS switching output. 'H' : OFF, 'L' : ON.
14	NC	-	Not connected.
15	DES	I	These two input ports determine the destination.
16	DES	I	
17	TAPE / ST	I	In Clock mode: 'H' = LCD display TAPE. 'L' = LCD display TIME. In FM Stereo mode : 'H' = FM ST indicator will Flash. 'L' = FM ST indicator no Flash.
18	POWER CHECK 1	I	Power check input port.
19	NC	-	Not connected.
20	BUZZER	O	Buzzer output.
21	POWER CHECK 2	I	Power check input port.
22	POWER CHECK 3	I	Constant 0.7V ref voltage for power check function.
23	REMOTE	I	A / D in for remote controller.
24	GND	-	Ground terminal.
25	POWER SW	O	'H' : Power Off, 'L' : Power On.
26	HOLD	I	'H' : Hold Off, 'L' : Hold On.
27	MUTE	O	'H' : Mute Off, 'L' : Mute On.
28	TU OUT	O	'H' : Tuner Off, 'L' : Tuner On.
29	TUNE IN	I	'L' : LCD displays 'TUNED'.
30	S15	O	LCD segment output.
31	S14	O	LCD segment output.
32	S13	O	LCD segment output.
33	S12	O	LCD segment output.
34	S11	O	LCD segment output.
35	S10	O	LCD segment output
36	S9	O	LCD segment output
37	S8	O	LCD segment output
38	S7	O	LCD segment output
39	S6	O	LCD segment output
40	S5	O	LCD segment output

Pin No.	Pin Name	I/O	Description
41	S4	O	LCD segment output.
42	S3	O	LCD segment output.
43	S2	O	LCD segment output.
44	S1	O	LCD segment output.
45	COM4	O	LCD commn output 4.
46	COM3	O	LCD commn output 3.
47	COM2	O	LCD commn output 2.
48	COM1	O	LCD commn output 1.
49	DBR4	-	LCD reference voltage.
50	DBR3	-	LCD reference voltage.
51	DBR2	-	Voltage doubler boosting.
52	DBR1	-	Voltage doubler boosting.
53	<u>RESET</u>	I	System reset input.
54	HCTR	-	Not connected.
55	VDD	-	Supply voltage terminal.
56	FMIN	I	FM oscillator signal input.
57	AMIN	I	AM oscillator signal input.
58	GND	-	Ground terminal.
59	PLL OUT	O	Phase comparison output.
60	LPF OUT	I	LPF output.
61	VT	O	VT input.
62	GND	-	Connected to ground.
63	TEST 1	-	Connected to ground.
64	XIN	-	Crystal oscillator pin.

## ADJUSTMENT



## <RADIO SECTION>

1. AM IF Adjustment  
L105 ..... 450kHz
  2. AM VT Check  
Settings : • Test point : TP2 (VT)  
Method : Set to AM 530kHz and check that the test point is more than 0.8V. Then set to AM 1710 kHz and check that the test point is less than 8.7V.
  3. AM Tracking Adjustment  
L101 ..... 630kHz  
VC101 ..... 1440kHz
  4. FM VT Adjustment  
Settings : • Test point : TP2 (VT)  
• Adjustment location : L103  
Method : Set to FM 76MHz and adjust L103 so that the test point becomes  $1.0V \pm 0.1V$ . Then set to FM 108.1MHz and check that the test point is less than 8.5V.
  5. FM Tracking Adjustment  
L102 ..... 76MHz

## <TAPE PLAYER SECTION>

6. Tape Speed Adjustment

Settings : • Test tape : TTA-100 (TAPE CENTRE)  
• Test point : Phones Jack (J1)  
• Adjustment location : SFR1  
• Tape/radio : TAPE  
• S-BASS : OFF  
• Volume : NON-CLIP(MAX -10dB )

Method : Play back the test tape and adjust SFR1 for  
 $3000 \pm 10\text{Hz}$ . Then confirm WOW is less than 0.50%.

7. Azimuth Adjustment

Settings : • Test tape : TTA-330/TTA-420  
• Test point : Phones Jack (J1)  
• S-BASS : OFF  
• Tape/radio : TAPE  
• Volume : MAX  
• Adjustment location : Head azimuth adjustment screw

Method : Play back the 8KHz signal of the test tape and  
adjust screw so that the output becomes maximum.

## PRACTICAL SERVICE FIGURE

## <TUNER SECTION>

Sensitivity :  
(IHF, THD 3%)

- FM Less than 20dB [at 76MHz (YU,YL)]
  - Less than 20dB [at 87.5MHz (YH,YJ,YZ)]
  - Less than 20dB [at 90MHz (YU,YL)]
  - Less than 20dB [at 98.1MHz (YH,YJ,YZ)]
  - Less than 20dB [at 108.0MHz]

Sensitivity :  
(S/N 10dB)

- A M Less than 59dB [at 630KHz]
    - Less than 56dB [at 1000KHz (YU,YL)]
    - Less than 56dB [at 999KHz (YH,YJ)]
    - Less than 59dB [at 999KHz (YZ)]
    - Less than 56dB [at 1440KHz (YU,YL,YH,YJ)]
    - Less than 59dB [at 1440KHz (YZ)]

## S/N Ratio

- |    |  |
|----|--|
| FM | More than 43dB [at 76MHz (YU,YL)]<br>More than 43dB [at 87.5MHz (YH,YJ,YZ)]<br>More than 43dB [at 90MHz (YU,YL)]<br>More than 43dB [at 98.1MHz (YH,YJ,YZ)]<br>More than 43dB [at 108MHz]   |
| AM | More than 25dB [at 630kHz (YU,YL,YH,YJ)]<br>More than 24dB [at 630kHz (YZ)]<br>More than 27dB [at 1000KHz (YU,YL)]<br>More than 27dB [at 999KHz (YH,YJ)]<br>More than 25dB [at 999KHz (YZ)]<br>More than 27dB [at 1440KHz (YU,YL,YH,YJ)]<br>More than 25dB [at 1440KHz (YZ)] |

Intermediate frequency : FM 10.7MHz ± 0.1MHz

- FM stereo separation : More than 16dB [at 90MHz (YU,YL)]  
More than 16dB [at 98.1MHz (YH,YI,YZ)]

<TAPE SECTION>

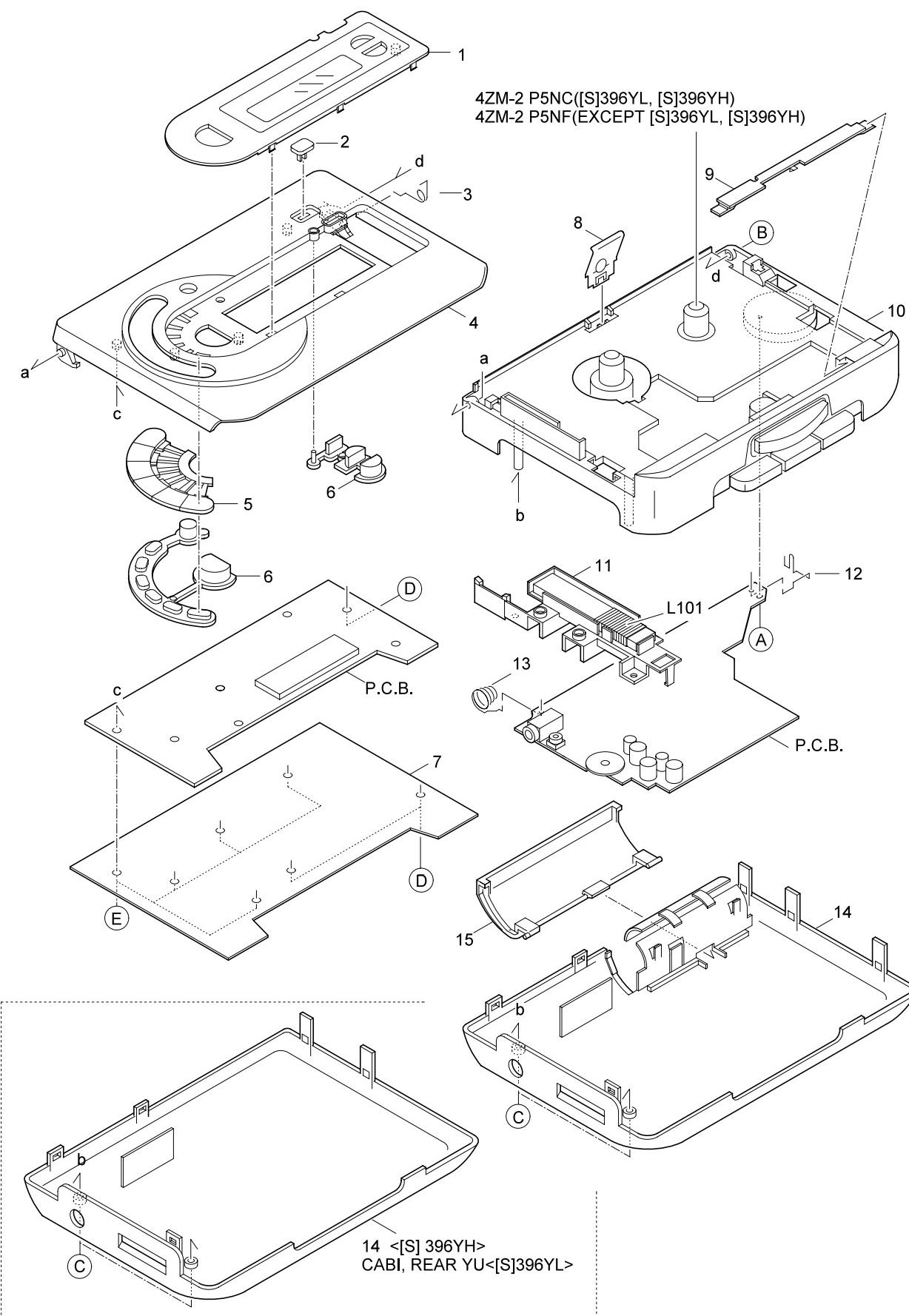
Tape speed :  $3000\text{Hz} \pm 60\text{Hz}$

- Less than 0.50% (RMS)
  - 35 ~ 50g-cm (FWD)
  - More than 36g-cm
  - 60 ~ 170g-cm
  - 1.5 ~ 4.5g-cm (FWD)
  - More than 43dB (YU, YL, YH, YJ)
  - More than 40dB (YZ)
  - Less than 3.0%
  - Less than 7.0mV (YU, YL, YH, YJ)
  - Less than 4.0mV (YZ)  
(Vol MAX, without tape)
  - Less than 0.3mV (YU, YL, YH, YJ)
  - Less than 0.2mV (YZ)

Frequency response :

- 63Hz + 1/-5dB ~ 8kHz ± 4dB  
 (NORMAL)  
 TTA - 100  
 TTA - 210  
 TTA - 320 (NORM)

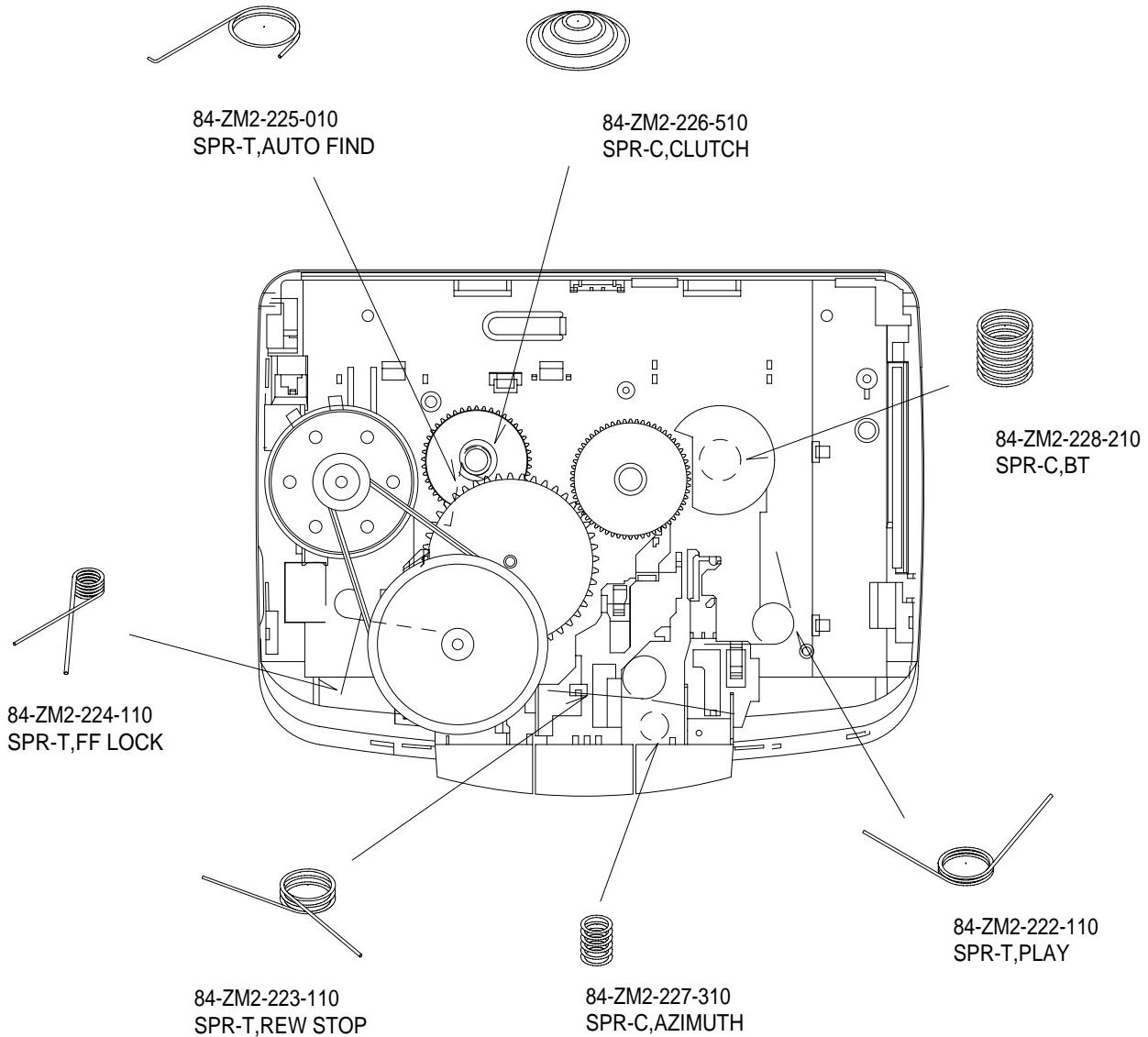
## MECHANICAL EXPLODED VIEW 1/1



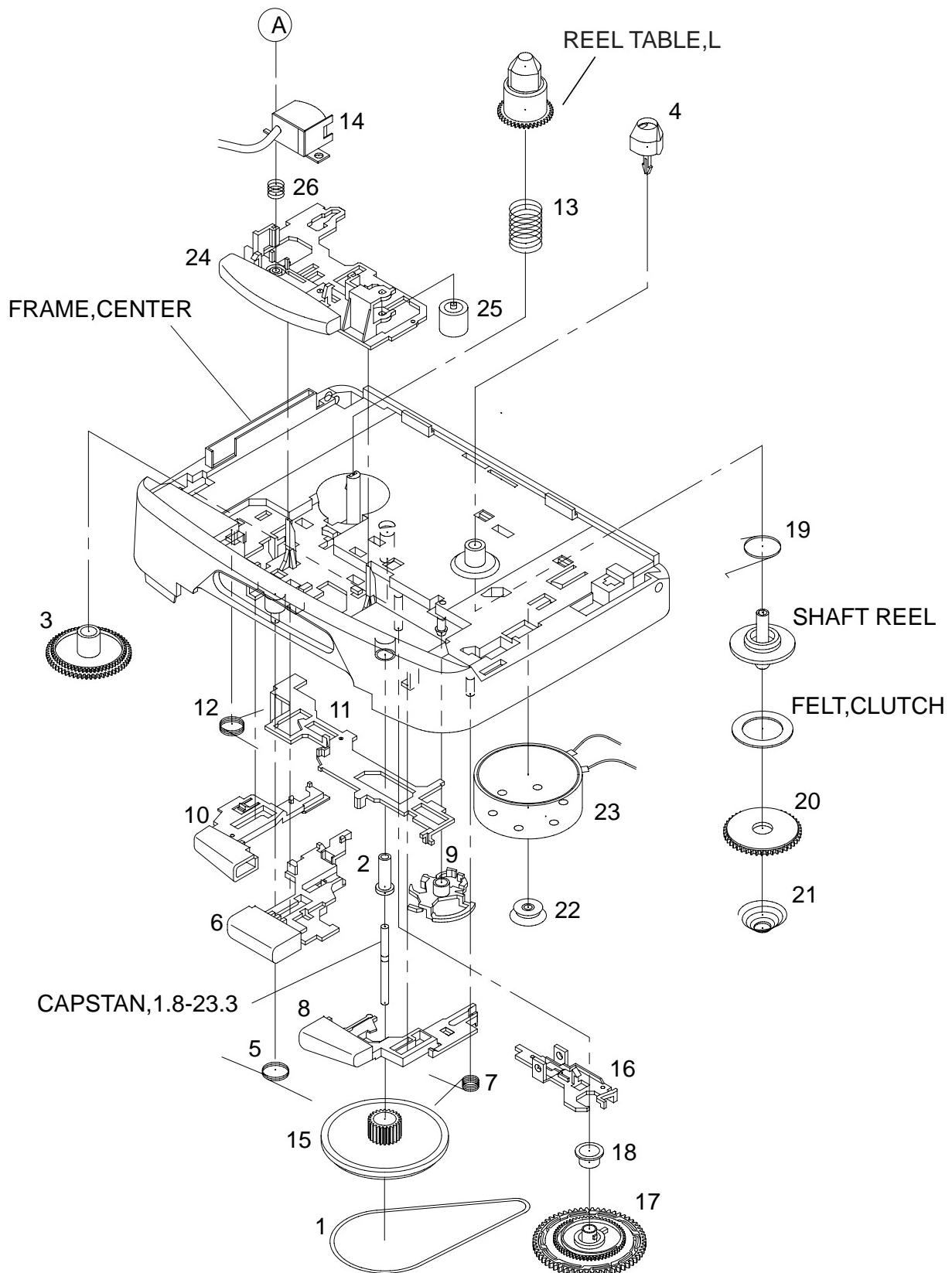
## MECHANICAL PARTS LIST 1/1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8Z-HRC-005-010		WINDOW,LCD
2	8Z-HRC-008-010		KNOB,SL HOLD<EXCEPT [L]394YL,[L]394YZ>
2	8Z-HRC-020-010		KNOB,SL HOLD BLUE<[L]394YL,[L]394YZ>
3	86-HRM-205-010		SPR-T,CLICK
4	8Z-HRC-012-010		LID,CASS 394<[S]394YU>
4	8Z-HRC-017-010		LID,CASS 394 EGS<[S]394YZ>
4	8Z-HRC-001-010		LID,CASS 396<[S]396YL1,[S]396YH,[S]396LB,[S]396YL,396YJ>
4	8Z-HRC-018-010		LID,CASS 396 EGS<[S]396YZ>
4	8Z-HRC-013-010		LID,CASS BLUE<[L]394YL>
4	8Z-HRC-019-010		LID,CASS BLUE EGS<[L]394YZ>
4	8Z-HRC-038-010		LID,CASS <399YL>
5	8Z-HRC-040-010		CAP, FUNCTION SIL<[S]394YZ>
5	8Z-HRC-010-010		CAP, FUNCTION<[S]394YU,[L]394YL,[S]394YZ1B,[L]394YZ1B,[L]394YZ>
5	8Z-HRC-006-010		CAP, FUNCTION BLUE<[S]396YL1,[S]396YH,[S]396LB,[S]396YL,[S]396YZ,396YJ,399YL>
6	8Z-HRC-007-010		BTN,FUNCTION
7	8Z-HRC-201-010		COVER, PCB
8	81-HK9-208-210		SPR-P,CASS A
9	8Z-HRC-204-010		PLATE,HEAD<EXCEPT [L]394YL,[L]394YZ>
9	8Z-HRC-207-010		PLATE,HEAD BLUE<[L]394YL,[L]394YZ>
10	8Z-HRC-002-010		FRAME,CENTER<EXCEPT [L]394YL,[L]394YZ>
10	8Z-HRC-014-010		FRAME,CENTER BLUE<[L]394YL,[L]394YZ>
11	8Z-HRC-202-010		HLDR,ANT
12	8Z-HRC-205-010		BAT-CONTACT,(+)
13	8Z-HRC-206-110		BAT-CONTACT,(-)
14	8Z-HRC-003-110		CABI,REAR<[S]396YH>
14	8Z-HRC-035-110		CABI,REAR ASSY BLUE<[L]394YL>
14	8Z-HRC-037-110		CABI,REAR ASSY<[L]394YZ>
14	8Z-HRC-036-110		CABI,REAR ASSY YU<[S]394YU,[S]396YL1,[S]396LB,399YL>
14	8Z-HRC-034-110		CABI,REAR ASSY YZ<[S]394YZ1B,[S]394YZ,[S]396YZ>
15	8Z-HRC-004-010		LID,BATT<[S]396YH,[S]396YL>
A	87-264-525-310		SCREW, V+1.7-2.5
B	87-067-756-010		SCREW HINGE 1.4-4
C	87-B10-078-010		VT2+1.7-10(3) BLK
D	87-B10-178-010		VT2+1.4-4.5 W/O SLOT
E	87-078-052-010		S-SCREW+1.4-3.5HL(B)

## SPRING APPLICATION POSITION



# TAPE MECHANISM EXPLODED VIEW 1/1



# TAPE MECHANISM PARTS LIST 1/1

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZM2-244-010		BELT,MAIN Y
2	84-ZM2-220-110		BRG,P
3	84-ZM2-211-010		GEAR,CONNECT
4	84-ZM2-216-210		REEL TABLE,R
5	84-ZM2-223-110		SPR-T,REW STOP
6	84-ZM2-054-010		LEVER,REW THIN
7	84-ZM2-224-110		SPR-T,FF LOCK
8	84-ZM2-053-010		LEVER,FF THIN
9	84-ZM2-207-310		LEVER,AUTO
10	84-ZM2-055-010		LEVER,STOP THIN
11	84-ZM2-206-410		LEVER,LOCK
12	84-ZM2-222-110		SPR-T,PLAY
13	84-ZM2-228-210		SPR-C,BT
14	87-A90-272-010		HEAD,PH MS25P ETH
15	84-ZM2-221-110		FLY-WHL,P2
16	84-ZM2-208-310		LEVER,SHIFT
17	84-ZM2-210-210		GEAR,AUTO
18	84-ZM2-218-110		CAP,GEAR AUTO
19	84-ZM2-225-010		SPR-T,AUTO FIND
20	84-ZM2-212-010		GEAR,CLUTCH
21	84-ZM2-226-510		SPR-C,CLUTCH
22	84-ZM2-219-010		PULLEY,MOTOR
23	87-045-385-110		MOT,BCY3B
24	84-ZM2-052-010		LEVER,PLAY THIN
25	84-ZM2-233-110		ROLLER ASSY,PINCH
26	84-ZM2-227-310		SPR-C,AZIMUTH
A	84-ZM2-252-010		S-SCREW,AZI-2-6.4 C

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A4 ▶

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